United States Department of the Interior

FISH AND WILDLIFE SERVICE
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December 19, 2017

To: Interested Parties

From: Scott Voss, Supervisory Fish Biologist, Red Bluff Fish and Wildlife Office

Subject: Biweekly report (December 3, 2017 - December 16, 2017)

Please find attached preliminary daily estimates of passage, 90% confidence intervals, and fork length ranges of unmarked juvenile salmonids sampled at Red Bluff Diversion Dam for the period December 3, 2017 through December 16, 2017. Race designation was assigned using length-at-date criteria.

This report also contains graphical displays of salmonid passage dating back to 2010 for comparison.

Please note that data contained in these reports is subject to revision as this data is preliminary and undergoing QA/QC procedures.

If you have any questions, please feel free to contact me at (530) 527-3043 ext 243.

Table 1.— Preliminary estimates of passage by brood-year (BY) and run for unmarked juvenile Chinook salmon and steelhead trout captured by rotary-screw traps at Red Bluff Diversion Dam (RK391), Sacramento River, CA, for the dates listed below. Results include estimated passage, peak river discharge volume, water temperature, turbidity, and fork length (mm) range in parentheses. A dash (-) indicates that sampling was not conducted on that date.

Date	Discharge volume (cfs) [1]	Water temperature (°C)	Water turbidity (NTU)	Estimated passage				
				BY17 Winter	BY17 Spring	BY17 Fall	BY17 Late-Fall	BY17 RBT
12/3/2017	5,648	10.5	2.7	260 (50 − 74)	26 (44)	78 (31 − 33)	0 (−)	0 (−)
12/4/2017	5,670	10.0	2.8	177 (58 − 86)	126 (35 − 46)	126 (33 − 34)	25 (113)	0 (−)
12/5/2017	5,604	9.9	2.2	711 (50 − 90)	158 (35 − 44)	158 (33 − 34)	0 (−)	27 (96)
12/6/2017	5,516	9.8	2.5	779 (49 − 93)	285 (35 − 37)	312 (32 − 34)	105 (116 − 127)	0 (−)
12/7/2017	5,494	9.9	2.9	646 (48 − 93)	223 (35 − 38)	174 (32 − 34)	74 (97 − 115)	25 (105)
12/8/2017	5,473	9.9	2.4	613 (50 − 86)	153 (36 − 42)	537 (32 − 35)	26 (115)	0 (−)
12/9/2017	5,451	8.7	2.7	423 (49 − 86)	25 (36)	199 (32 − 35)	75 (106 − 127)	0 (−)
12/10/2017	5,429	9.8	2.9	364 (54 − 96)	68 (36 − 46)	138 (32 − 35)	0 (−)	0 (−)
12/11/2017	5,384	9.7	2.5	365 (55 − 95)	97 (36 − 42)	292 (32 − 35)	0 (−)	0 (−)
12/12/2017	5,362	9.5	2.2	283 (56 − 85)	47 (37 − 38)	165 (32 − 36)	23 (109)	23 (140)
12/13/2017	5,340	9.4	2.3	125 (57 − 72)	51 (37 − 38)	376 (34 − 36)	76 (115 − 139)	0 (−)
12/14/2017	5,340	9.7	2.5	101 (57 − 85)	76 (37)	406 (31 − 36)	25 (144)	0 (−)
12/15/2017	5,340	10.1	2.6	75 (54 − 61)	125 (37)	225 (33 − 36)	25 (135)	0 (−)
12/16/2017	5,318	9.7	2.7	201 (59 − 75)	0 (−)	326 (29 − 36)	76 (104 − 137)	0 (−)
Biweekly Total [2]				**5,123**	**1,460**	**3,512**	**530**	**75**
Biweekly Lower 90% Confidence Interval				3,858	896	2,530	207	-42
Biweekly Upper 90% Confidence Interval				6,388	2,024	4,494	853	192
Brood Year Total				**423,587**	**128,366**	**3,563**	**75,874**	**10,088**
Brood year Lower 90% Confidence Interval				304,569	94,167	2,474	23,499	-240
Brood year Upper 90% Confidence Interval				542,606	162,564	4,652	128,249	20,414

[1] Peak daily discharge values do not account for diversions at RBDD and only represent peak flows registered at the Bend Bridge Gauging station (http://cdec2.water.ca.gov/cgi-progs/queryFx?bnd).

[2] Biweekly totals may be greater than the sum of the daily estimates presented in this table if sampling was not conducted on each day of the biweekly period. A dash (-) denotes those dates. To estimate daily passage for days that were not sampled, we impute missed sample days with the weekly mean value of days sampled within the week.

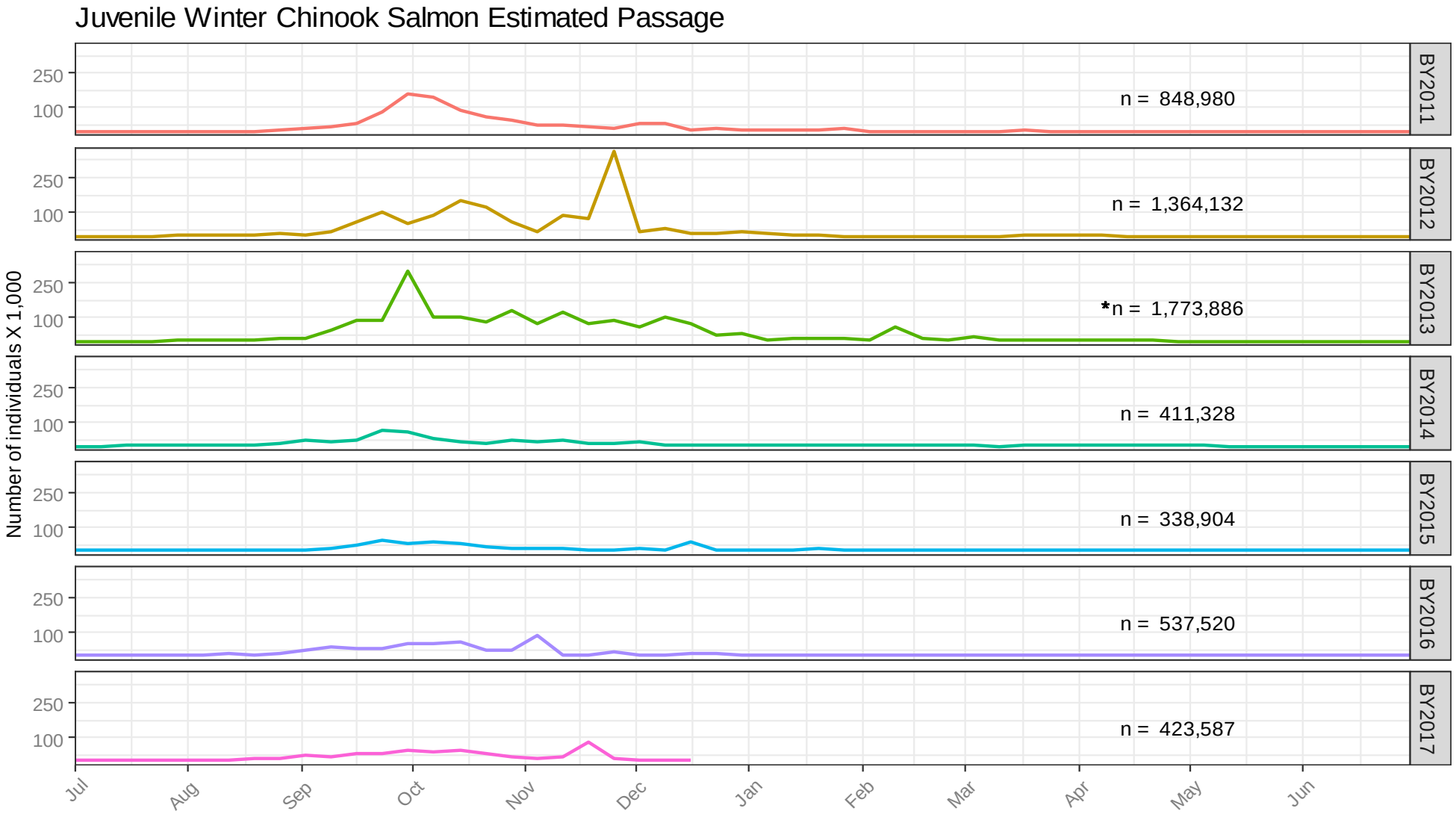

Figure 1. Weekly estimated passage of unmarked juvenile winter Chinook salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period July 1, 2011 to present .

*Winter run passage value interpolated using a monthly mean for the period October 1, 2013 - October 17, 2013 due to government shutdown .

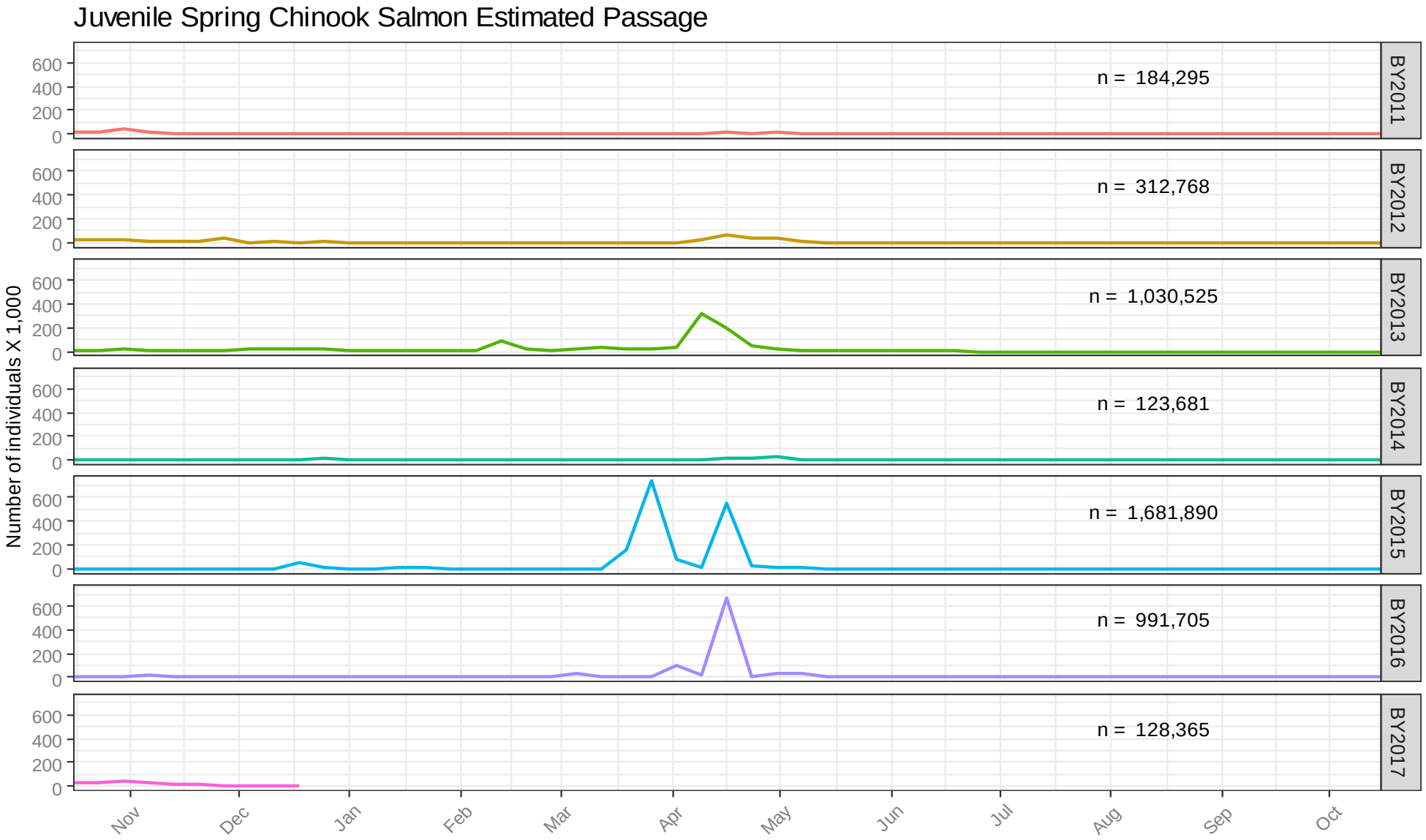

Figure 2. Weekly estimated passage of unmarked juvenile spring Chinook salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period October 16, 2011 to present .

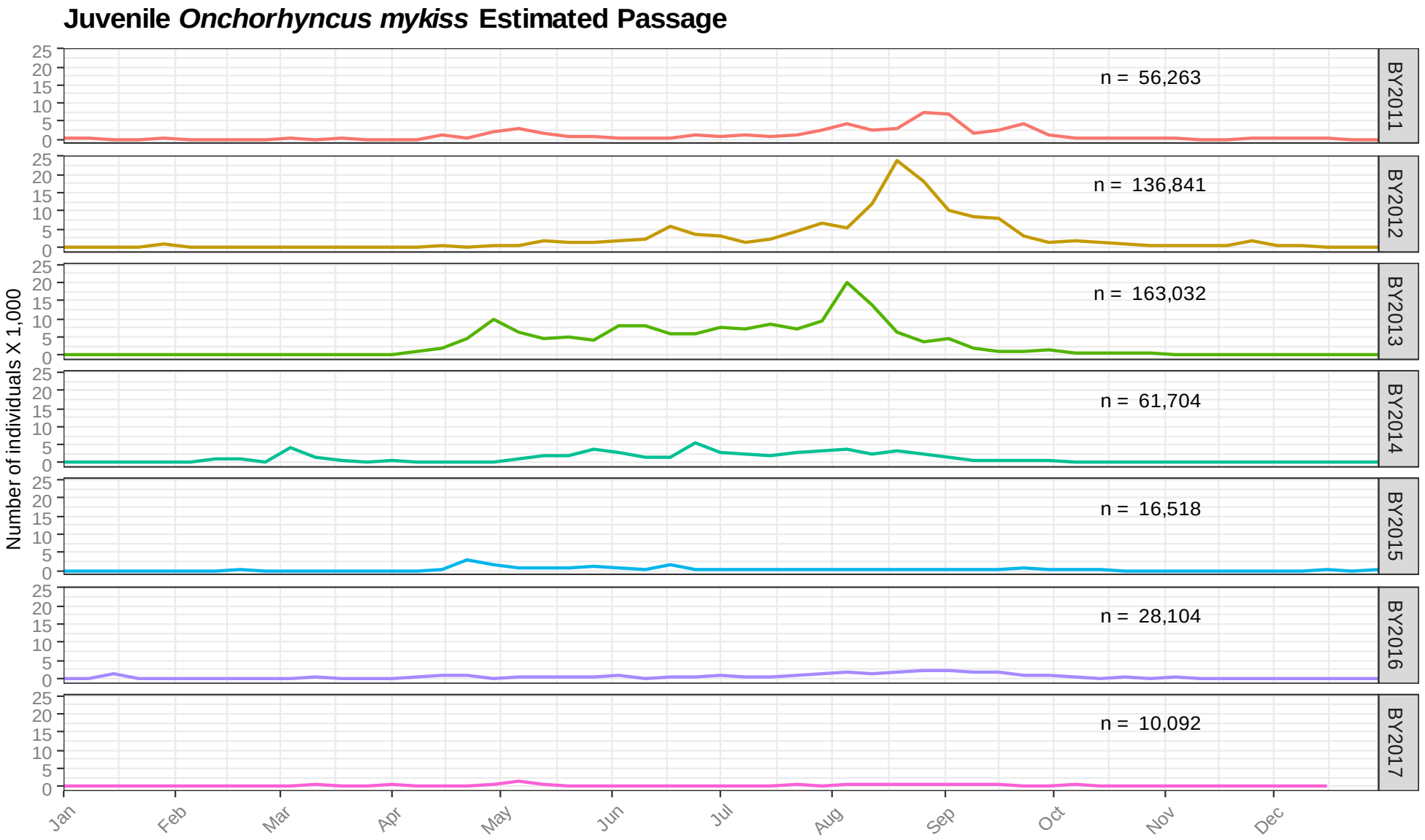

Figure 3. Weekly estimated passage of unmarked juvenile Rainbow/Steelhead trout at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period January 1, 2011 to present .

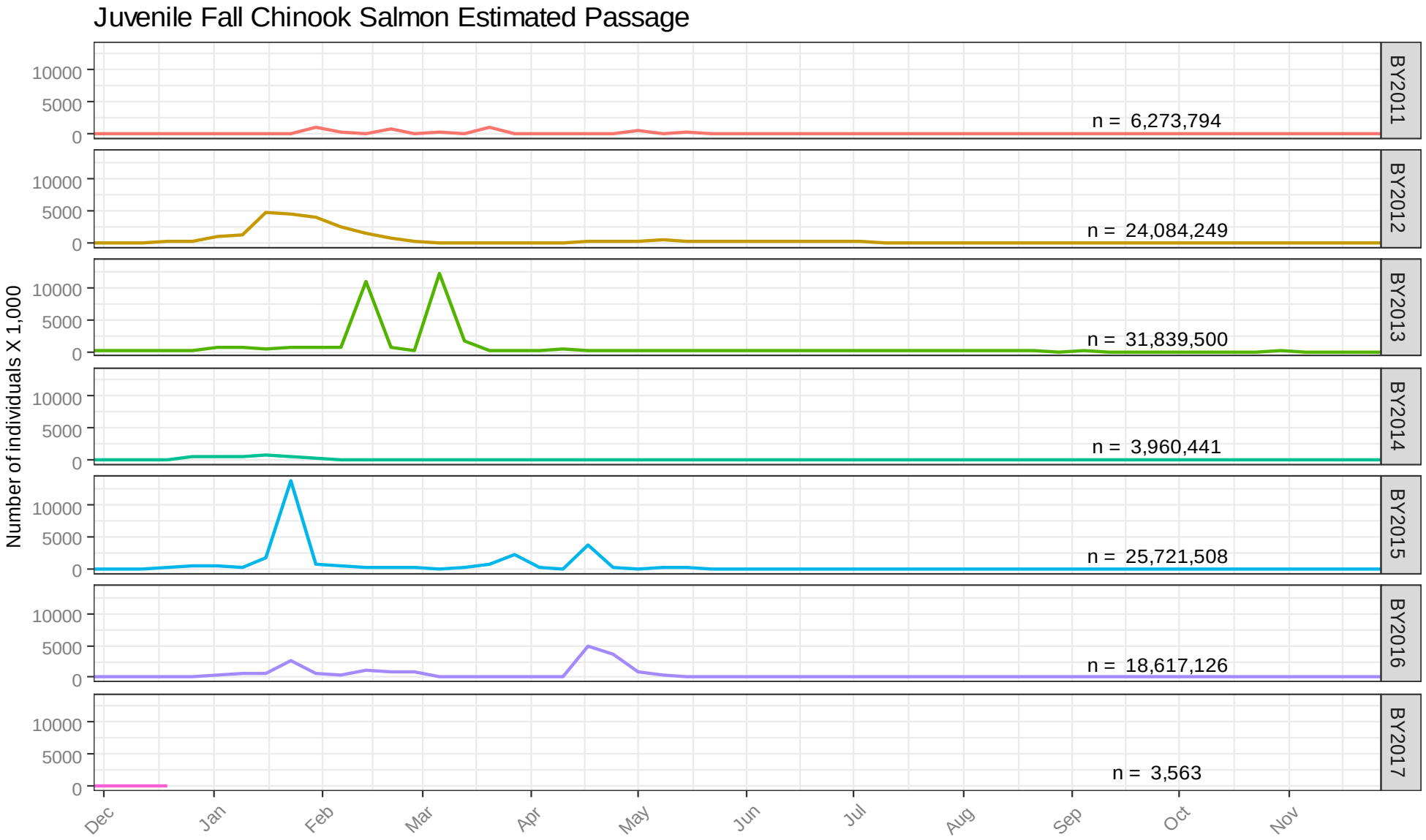

Figure 4. Weekly estimated passage of unmarked juvenile fall Chinook salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period December 1, 2011 to present .

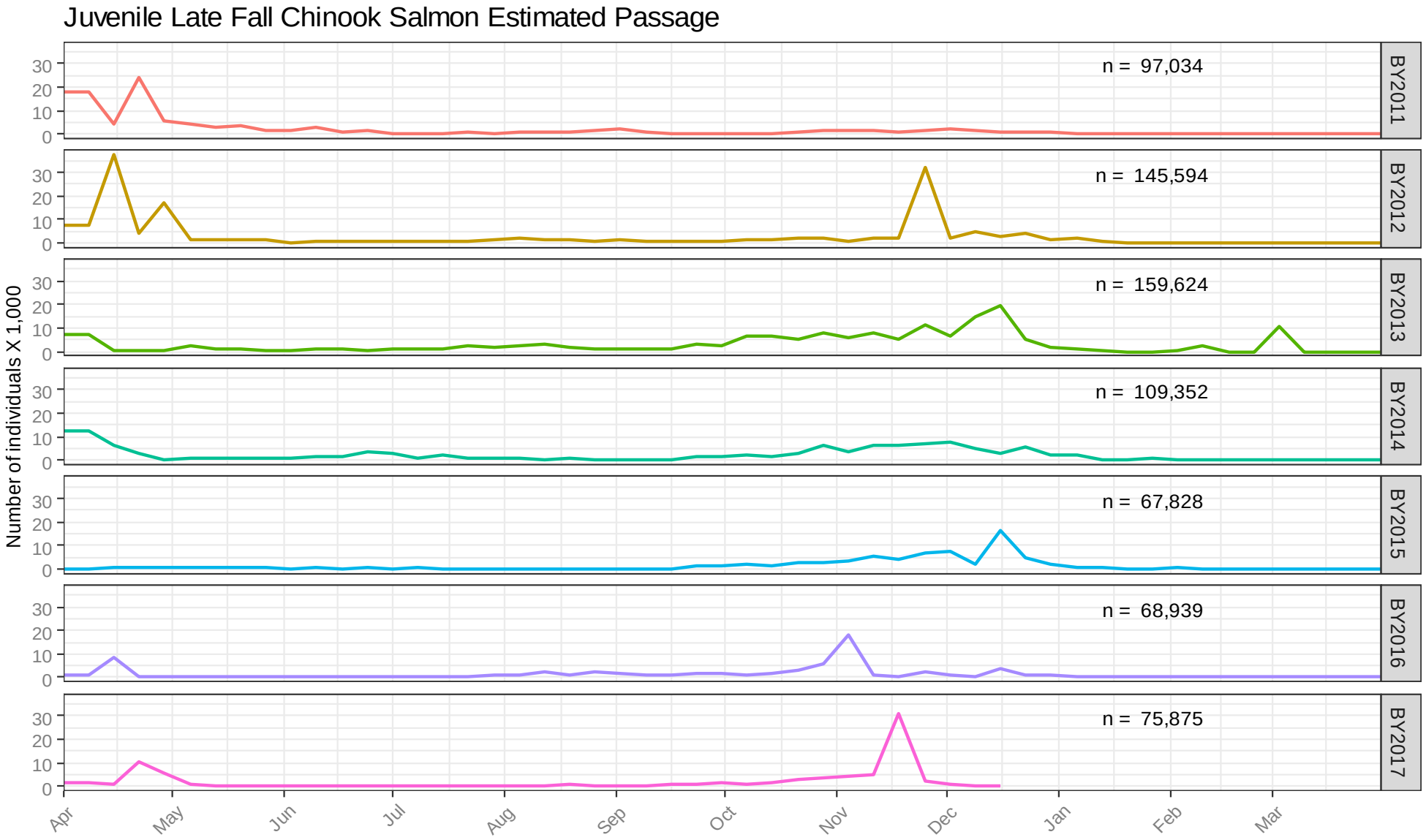

Figure 5. Weekly estimated passage of unmarked juvenile late fall Chinook salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period April 1, 2011 to present .

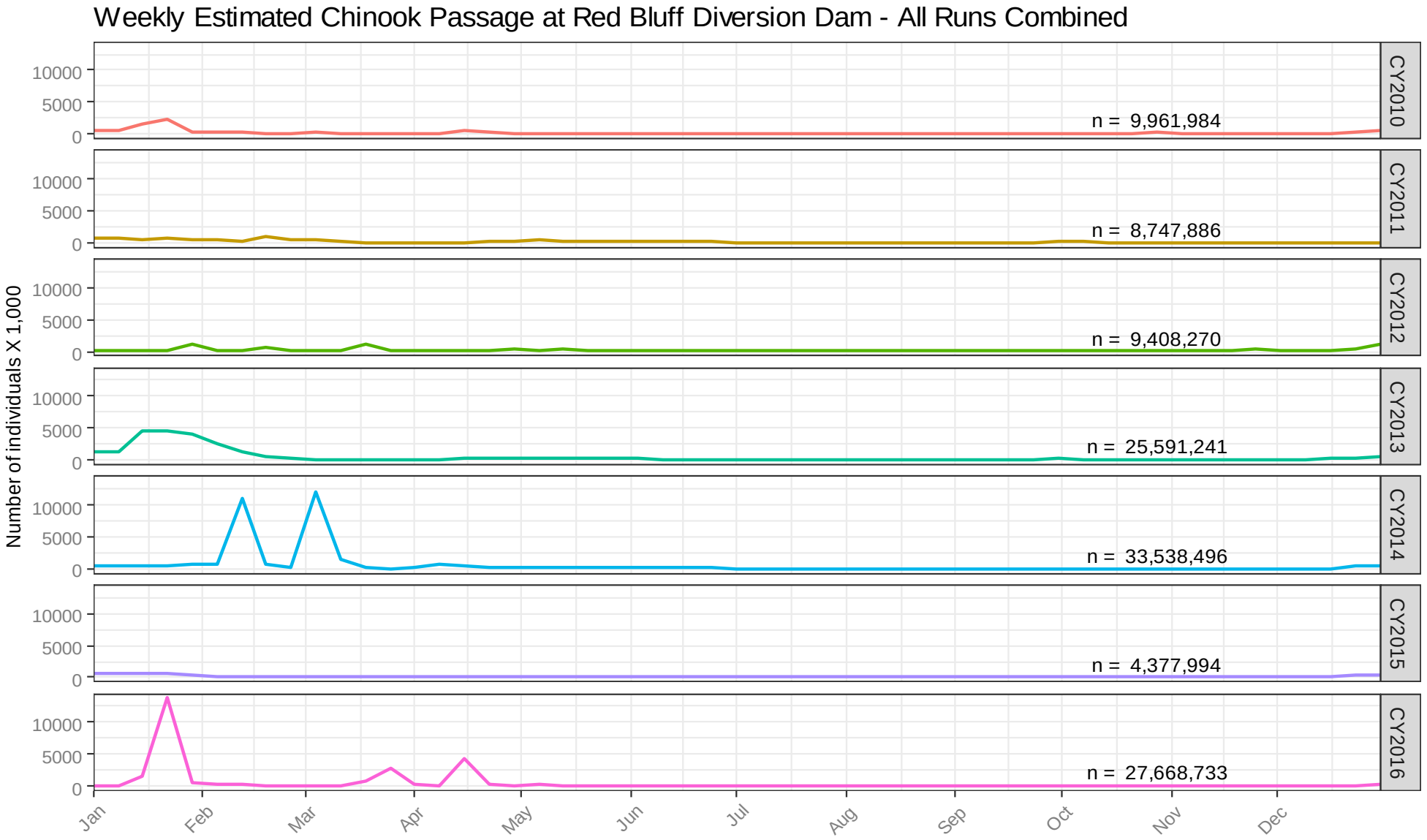

Figure 6. Weekly estimated passage of unmarked juvenile Chinook salmon at Red Bluff Diversion Dam (RK391) by calendar year. Fish were sampled using rotary-screw traps for the period January 1, 2010 to December 31, 2016